

REMARKS

Applicant appreciates the Examiner's thorough examination of the present application as evidenced by the final Office Action of May 9, 2007 (hereinafter "Final Action") and the Advisory Action of July 11, 2007. In response, Applicant has amended independent Claim 1 to clarify that the sense line assists in switching a magnetic orientation of one or more magnetic memory elements by providing a current from a first via to a second via. Dependent Claim 7 has been amended to be consistent with the amendment to independent Claim 1 and dependent Claim 13 has been amended to correct a typographical error. Applicant submits that the cited reference fails to disclose or suggest, at least, the recitations of independent Claim 1 as amended. Accordingly, Applicant submits that all pending claims are in condition for allowance. Favorable reconsideration of all pending claims is respectfully requested for at least the reasons discussed hereafter.

Independent Claim 1 is Patentable

Independent Claim 1 stands rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent Publication No. US 2004/0125673 to Daughton et al. (hereinafter "Daughton"). (Final Action, page 2). Independent Claim 1 is directed to a magnetic random access memory device and recites (as amended):

a plurality of magnetic memory elements; and
a sense line coupled to the plurality of magnetic memory elements for sending a magnetic orientation of at least one of the plurality of magnetic memory elements, the sense line including a first via and a second via;
wherein the sense line is utilized to thermally assist in switching a magnetic orientation of the at least one of the plurality of magnetic memory elements by providing a current from the first via to the second via. (Emphasis added)

According to the highlighted recitations of independent Claim 11 above, current flows between a first via and a second via to switch the magnetic orientation of one or more of the magnetic memory elements. This is described, for example, in the Specification at page 9, lines 4 - 10 where the text explains with reference to FIG. 6 that current flows between the first via 630 to the second via 640.

In sharp contrast, Daughton describes a structure in which current flows through only one conduction via. Paragraph 82 of Daughton states:

...
Thus, opening the circuit at one end of a sense line 20' in which a selected cell is connected, and placing the other end at a voltage relatively low or high with respect to the voltage concurrently established on the adjacent one of the word lines 22, will allow current to be established through portions of that sense line and that word line as well as the cell **if the cell switching transistor is switched on to provided a thermal pulse to that cell.**

...(Emphasis added).

In other words, according to Daughton, when the cell switching transistor of a selected cell turns on, current flows from the sense line 20' to the word line 22 by way of a conduction via. Therefore, current does not flow through additional conduction vias for non-selected cells because cell switching transistors for the non-selected cells are turned off. Although a plurality of cells are selected, because the current flows from the sense line 20' to the word line 22 (or from the word line 22 to the sense line 20'), the current flows in the same direction within all conduction vias for the selected cells.

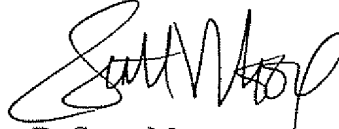
For at least the foregoing reasons, Applicant respectfully submits that independent Claims 1 is patentable over Daughton, and that dependent Claims 2 - 10 and 13 are patentable at least by virtue of their depending from an allowable claim.

Applicant further submits that dependent Claim 7 is separately patentable over Daughton. The Final Action cites paragraph 95 of Daughton as disclosing the current source recited in dependent Claim 7. (Final Action, page 3). Applicant submits, however, that Daughton does not disclose or suggest a current source that provides current from a first via to a second via as recited in Claim 7, as amended. Applicant submits that dependent Claim 7 is separately patentable for at least these additional reasons.

CONCLUSION

In light of the above amendments and remarks, Applicant respectfully submits that the above-entitled application is now in condition for allowance. Favorable reconsideration of this application, as amended, is respectfully requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (919) 854-1400.

Respectfully submitted,



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CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.6(a)(4) to the U.S. Patent and Trademark Office on August 9, 2007.

Signature: _____

Joyce Paoli

